CHAPTER 8

TRANSPORTATION, STORAGE, AND SECURITY

LEARNING OBJECTIVES

After studying this chapter, you should:

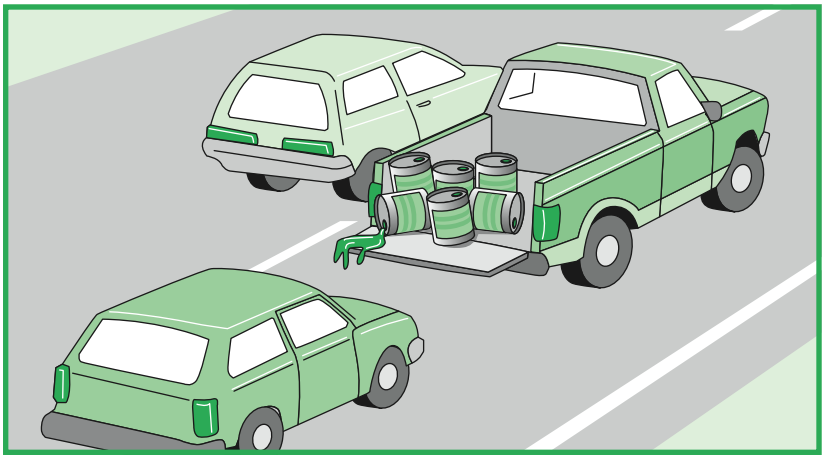
- Know how to identify components of a proper (e.g., secured, ventilated) storage area.
- Know how to store pesticides according to label directions and regulations and how to post warning signs around storage areas.
- Know how to practice inventory control methods to prevent excess storage.
- Know how to maintain pesticide containers (e.g., protect labels, inspect for damage, keep containers closed, discard expired products).
- Know how to prepare for potential spills (e.g., maintain spill kit, maintain accessible material safety data sheets).
- Know how to dispose of pesticide wastes according to label directions.
- Know how to restrict access to pesticides by unauthorized personnel.

This chapter discusses safety and security issues while pesticides are in transit or in storage. Accidents involving pesticides are more likely to occur while they are being transported. Properly maintain and design storage sites to prevent damage and unauthorized access to pesticides. Pesticide safety practices include securing pesticides in the cargo area of the transport vehicle and preventing water damage in storage areas to prevent the accidental discharge of pesticides. In addition, appropriate security measures, such as locking pesticides inside cargo boxes and storage areas, prevent pesticide theft and vandalism. You can reduce the potential for pesticide problems by being aware of the conditions that leave pesticides open to security risks and by initiating good safety practices.

TRANSPORTATION

It is important for every pesticide user to understand possible hazards and the procedures for minimizing the risks associated with transporting pesticides. Careless handling of containers, incorrectly maintained equipment, and unforeseen accidents can all lead to pesticide leaks and spills during transport. The fact that some pesticides are highly flammable increases the danger (fire and toxic fumes) while they are in transit. Another concern is that other vehicles could scatter pesticide products that are spilled on public roads. Such events have the potential to injure bystanders and animals. In addition, transportation-related pesticide spills and leaks can contaminate the environment, endanger residential areas, and lead to financial losses and legal actions.

Pesticides are transported from manufacturers to distributors and dealers, from retailers to end users, and from storage sites and mixing locations to application sites. Accidents can happen at any point in the distribution chain, even when transport distances are short. The first line of defense is knowing how to prevent transportation mishaps. When mishaps occur, however, initiating the appropriate response could mean the difference between a minor inconvenience and a communitywide disaster.

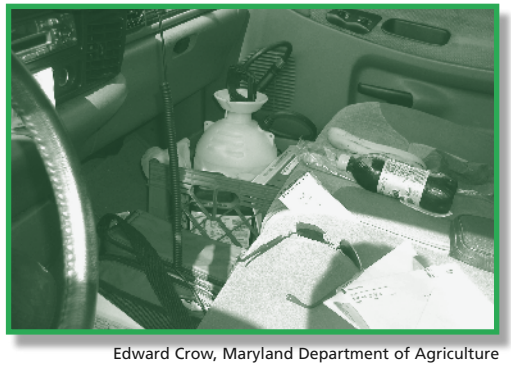


Secure pesticides while transporting them even for short distances.

Transport Vehicle

Transport vehicles should be in good mechanical condition, including power train, chassis, and any onboard bulk tanks and associated fittings. In particular, make sure safety and control components such as brakes, tires, and steering are in good working order. A poorly maintained vehicle is, by itself, a safety risk; adding pesticides to the picture increases the potential risk of injury or contamination should a mishap occur. Regularly inspect application equipment being transported. Look for structural defects in the equipment such as cracks, punctures, and other causes of leaks or failure. Always carry equipment needed to make repairs in case a problem occurs while the vehicle is in transit.

Never carry pesticides in the passenger compartment of a vehicle because spilled chemicals and hazardous fumes



Edward Crow, Maryland Department of Agriculture

Never carry pesticides in the passenger compartment of a vehicle.

can seriously injure the occupants. Spilled pesticides can be difficult or impossible to remove completely from the vehicle's interior, leading to long-term exposures. If pesticides must be carried in a station wagon, utility van, or similarly enclosed vehicle, ventilate the cargo and passenger compartments, and keep passengers and pets away from pesticides during transport. Remember, cargo can shift during collisions and other sudden stops, placing a safety barrier between the passengers and the cargo area is advisable.

The cargo area must be able to securely hold containers and provide protection from tears, punctures, or impacts that could lead to container damage. Enclosed cargo boxes provide the greatest protection but are not

always practical. Cargo boxes also offer the added benefit of security from curious children, careless adults, or vandals. Open truck beds are convenient for loading and unloading, but take precautions to minimize the possibility of theft or losing containers on sharp turns or bumpy roads. Never stack pesticide containers higher than the sides of the vehicle. Make sure flatbed trucks have side and tail racks, and tie-down rings, cleats or racks to simplify the job of securing the load. Before loading, inspect every cargo area for nails, stones, or sharp edges/objects that could damage containers. Steel beds are preferable to wood because they are more easily cleaned if a spill should occur.

Jack Kelly Clark, Univ. of California Statewide IPM Program

Cargo boxes allow for secure transport of pesticides and help prevent theft and vandalism.

Vehicle Operator

Both the owner and the operator of the transport vehicle can be held accountable for any injuries, contamination, or damage resulting from a chemical release that may occur. The vehicle operator may be the only person capable of reacting to a spill and, in some instances, may need to assist first response emergency personnel as they arrive on the scene. At a bare minimum, the vehicle operator must understand the nature and hazards of the pesticides being transported. Train the operator in basic emergency response procedures, including spill control and emergency notification procedures. Refer to Chapter 9, "Emergency or Incident Response," for specific information on how to respond to a fire, spill, or leak involving agricultural chemicals.

Special motor vehicle training and licensing, in addition to pesticide training or certification, may be required for operators of pesticide transport vehicles. If a load meets the U.S. Department of Transportation (DOT) definition of a hazardous material or substance, then special driver training and, in some instances, commercial driver licensing is required.

Other Safety Precautions

Before departing, make sure that the technical data for all pesticide products and emergency information for spill response are in the vehicle. A shipping paper, also called a vehicle manifest, may be required for certain products regulated as hazardous materials under DOT regulations. The regulatory section of a MSDS lists whether or not the pesticide product is a DOT-regulated product.

Product labels and material safety data sheets contain information about the proper storage and handling of products, including acceptable storage temperatures, human and environmental hazards, personal protective equipment, and emergency telephone numbers. Provide this information in the vehicle to help the driver or emergency personnel properly respond to a pesticide release. It is also a good idea to have a phone number in the vehicle for 24-hour emergency assistance.

A mobile phone is strongly recommended for anyone routinely involved in the transport of pesticides or working alone in remote locations. Always carry a spill kit including a shovel and broom and personal protective equipment appropriate for the pesticides in transit and know how to use these items. Be familiar with the travel route so you can anticipate and avoid problems such as construction delays. If a pesticide release occurs, a major traffic jam only further complicates cleanup.

Inspect containers before loading to be certain they are in good condition. Look for legible and attached labels, tight closures, and pesticide-free outside surfaces. Handle containers

carefully during loading to avoid rips and punctures. Use packing or shipping containers to provide extra protection and secondary containment. Where practical, using a synthetic liner or tarpaulin large enough to cover the floor and sides of the cargo area (especially truck beds) can provide containment and easier cleanup of spilled materials. Organize the load to maximize stability while at the same time maintaining access to containers for ease of unloading. The less containers are handled, the less likely they are to be damaged. Secure the load with tarps, ropes, brace bars, or other appropriate devices to prevent containers from shifting. Also, stabilize anything else that could move and damage a container during transport. Also secure application equipment such as hand sprayers, backpack sprayers, spreaders, and spray tanks during transport.

Protect pesticides from temperature extremes and moisture during transit. Extremely low or high temperatures (below 40 degrees F or above 110 degrees F) can alter the stability or effectiveness of some pesticide formulations. Moisture can destroy paper and cardboard pesticide containers. Placing a waterproof cover over the load can provide protection from the elements, including the hot summer sun.

Never allow people, pets, or livestock to ride in a cargo area loaded with pesticides. Separate food, livestock feed, seed, veterinary supplies, and plant materials from pesticides because contamination may render them unusable or result in a poisoning incident. Keep herbicides separate from other pesticides and fertilizers because of the potential for cross-contamination.

Always secure the load and carry in the truck a spill kit that includes a broom and shovel.

Adapted from University of Illinois *Privte Applicator* manual

Transportation Security

Whenever possible, transport pesticides in a locked compartment or container. If you must use an open vehicle to transport pesticides, never leave it unattended. Always secure your spray tank or mini-bulk container when it contains a pesticide mixture. Remember, you will be held responsible if a curious child or careless adult is poisoned or if environmental contamination occurs because of your negligence. Take all appropriate steps to reduce the chance of vandalism or theft.

NC Dept. of Agriculture & Consumer Services

Pesticides stored incorrectly with feed, seed, and fertilizers increase the risk of contaminating non-pesticide products.

The DOT requires diamond-shaped signs called **placards** on vehicles that transport certain types and quantities of hazardous materials. Though few pesticides require placarding, it is important to ask distributors whether what you are buying requires placarding. Most distributors furnish these to you if you need to place them on your transportation vehicles. Hazardous materials include some pesticides; fertilizers such as anhydrous ammonia or ammonium nitrate; fuels such as gasoline, diesel, and propane; and explosives such as dynamite and detonators. Placards

provide emergency responders with the information necessary to quickly assess an accident situation from a distance, reducing the possibility of someone approaching the accident site without wearing the proper protective clothing or equipment.

Persons, including farmers, who ship or transport materials in quantities that require placards are now required to develop and implement a **transportation security plan.** Vehicles must be placarded when transporting pesticides bearing a DOT poison label being transported in containers larger than 119 gallons or in quantities greater than 1,000 pounds. Therefore, all operations that transport pesticides that meet these conditions must have a security plan. The security plan must include protection against unauthorized access, a security check of employees that pick up and transport placarded hazardous materials, and a security plan for the intended travel route. For further details on the transportation security plan, contact the Hazardous Materials Information Center (see box below).

Hazardous Materials Information Center

1-800-HMR-4922

http://hazmat.dot.gov/infocent.htm

Applicators may need to become familiar with many other DOT state and federal requirements. The DOT guidebook, *Guide to Developing an Effective Security Plan for the Highway Transportation of Hazardous Materials*, is a useful reference for transporters of pesticides *(http://www.fmcsa.dot.gov/safety-security/hazmat/security-plan-guide.htm).*

Examples of placards placed on vehicles that transport certain types of hazardous materials.

PESTICIDE STORAGE

Although many pesticide handlers use existing buildings or areas within existing buildings for pesticide storage, it is always best to build a separate storage facility just for pesticides.

A well-designed and maintained pesticide storage site:

- Protects people and animals from exposure.
- Reduces the chance of environmental contamination.
- Prevents damage to pesticides from temperature extremes and excess moisture.
- Safeguards the pesticides from theft, vandalism, and unauthorized use.
- Reduces the likelihood of liability.

Secure the Site

Keeping out unauthorized people, pets, and stray animals is an important function of the pesticide storage site. Whether the designated area is as small as a cabinet or closet or as large as an entire room or building, keep it securely locked. Post highly visible warning signs on doors and windows to alert people that pesticides are stored inside. In addition, post "No Smoking" warnings—many pesticides are highly flammable. Security of pesticides is covered in much more detail at the end of this chapter.

Prevent Water Damage

Locate the pesticide storage facility where water damage is unlikely to occur. Carefully consider soil and land surface characteristics when selecting a storage site to prevent potential contamination of surface water or groundwater. Avoid locating the storage facility near a stream likely to flood or where runoff water can be a potential problem, such as at the base of a slope. In extreme cases of flooding, all the pesticides from the storage site can move into surrounding areas. In certain situations, consider diking or constructing some other con-

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Maintain a well designed, secure pesticide storage facility with highly visible warning signs. Keep it well ventilated and located where water damage is not likely to occur.

tainment structure around the storage facility. A common recommendation is to set storage areas back at least 50 feet from a well to prevent groundwater contamination, but requirements may vary by state.

Water or excess moisture can damage pesticide containers and their contents. Moisture causes:

- Metal containers to rust.
- Paper and cardboard containers to split or crumble.
- Pesticide labeling to peel, smear, or otherwise become unreadable.
- Dry pesticides to clump, degrade, or dissolve.
- Slow-release products to release their active ingredients.

Do not store pesticides in locations that can become damp or wet.

Control the Temperature

Choose a cool, well-ventilated room or building that is insulated or temperature-controlled. Exhaust fans directed to the outside of the building reduce temperatures and remove dust and vapors from the storage facility. Ventilation of the air from a pesticide storage area into other rooms is an unsafe practice. The pesticide labeling often specifies the temperature limits for storing a product. Temperature extremes can decrease the effectiveness of some pesticides. In addition, freezing temperatures can result in breakage of glass, metal, and plastic containers. Excessive heat can cause plastic containers to melt, some glass containers to explode, and a few pesticides to volatilize and drift from the storage site. Always store pesticide containers out of direct sunlight to prevent overheating.

Provide Adequate Lighting

Be sure the pesticide storage facility is well lighted. Pesticide handlers using the facility must be able to see well enough to read the pesticide label and notice whether containers are leaking or corroding. Without adequate lighting, the pesticide handler can have difficulty cleaning up spills and leaks.

Paul Love, Michigan State University

Provide adequate lighting inside of pesticide storage areas.

Because of the volatility of some pesticide formulations, use only spark-proof lighting fixtures and switches.

Use Non-porous Materials

Construct the floor of the pesticide storage area using sealed cement, glazed ceramic tile, no-wax sheet flooring, or other material that is free of cracks and easy to clean and decontaminate in the event of a spill or leak. Carpeting, wood, soil, and other absorbent floors are not suitable because they are difficult or impossible to decontaminate. A floor that slopes into a containment system or recessed below the level of the doors helps to keep spilled or leaking pesticides within a confined area. For ease

USDA

Be sure the floor of the pesticide containment site is made of non-porous materials such as sealed cement. A recessed floor helps control spills or leaking pesticides.

of cleanup, choose shelving and pallets made of non-absorbent materials such as plastic or metal.

Maintain the Storage Site

Store only pesticide containers, pesticide equipment, and a spill cleanup kit at the storage site. Never keep food, drinks, tobacco, feed, medication, medical or veterinary supplies, seeds, clothing, or personal protective equipment (other than that necessary for emergency response) at the site. These items could become contaminated by pesticide vapors, dusts, or spills, resulting in accidental exposure to people or animals. Have water available for decontamination.

Keep Labels Legible

Store pesticide containers with the labels in plain sight. Costly errors can result if the wrong pesticide is chosen. Be sure labels are always legible. If the label is destroyed or damaged, immediately mark the container with some basic labeling information such as the trade name and common name of the product, the EPA registration number, the percentage of each active ingredient, the signal word, and the use classification. Then request a replacement label from the pesticide dealer or the distributor.

Store Pesticide Containers Safely

Store pesticides only in their original containers or an acceptable service container. At a minimum, write the trade and common names, EPA registration number, and signal word on the container. Never use milk jugs, soft drink bottles, fruit jars, medicine bottles, fuel cans, or other types of non-pesticide containers. Besides being illegal, switching containers has resulted in serious poisonings because children, as well as most adults, associate the shape, size, and color of a container with its usual contents. Never lend or borrow any pesticide product in an unmarked or unlabelled container.

Keep containers securely closed when not in use. Dry formulations tend to cake when wet or subjected to high humidity. Opened bags of wettable and soluble powders, dry flowables, dusts, and granules can be placed into sealable plastic bags or other suitable containers to reduce moisture absorption and to prevent a spill, should a tear or break occur.

Place large drums and heavy bags on plastic pallets. Store other pesticides on metal shelving, placing the heaviest containers and liquids on the lower shelves. Do not allow containers to extend beyond the edge of shelving because they could easily be bumped or knocked off. Be sure the shelving is sturdy enough to handle the quantity and weight involved.

D. Brown-Rytlewski, MSU

Do not store pesticides in food containers.

Store volatile pesticides separately to avoid possible cross-contamination of other pesticides, fertilizers, and seeds.

Place bulk or mini-bulk tanks on a reinforced concrete pad or other impermeable surface. Diking around a tank keeps spilled or leaking pesticides inside a restricted area and also helps prevent damage to the tanks from vehicles and equipment. Construct the area inside a dike large enough to contain the volume of the liquid in the tank plus at least an additional 10 percent. Keep valves and pumps within the diked area. Make sure all drains within the dike connect to a holding tank. Outside, use fencing to prevent tampering or unauthorized access to any bulk tanks.

Store pesticides on metal shelving, with the heaviest containers and liquids stored on the lower shelves. Never extend beyond the edge of the shelving.

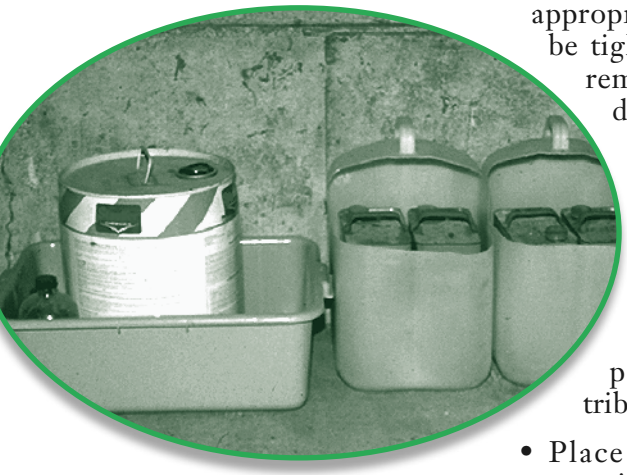
Look for Damage

Inspect pesticide containers regularly for tears, splits, breaks, leaks, rust, or corrosion. If you find a damaged container, immediately put on appropriate personal protective equipment and take immediate action to prevent the pesticide from leaking or spreading into its surroundings. If a container is already leaking, take corrective action to prevent further leaking and immediately clean up any spilled pesticide. Be especially careful if the damaged container is an aerosol can or fumigant

cylinder that contains pesticides under pressure.

Depending on the specific situation, consider the following actions:

- Use the pesticide immediately at a site and at a rate allowed by the label.
- Transfer the pesticide into another pesticide container that originally held the same pesticide and has an intact label.
- Transfer the contents to an appropriate container that can be tightly closed. If possible, remove the label from the damaged container and place it on the new container. Otherwise, temporarily mark the new container with basic labeling information and get a copy of the label from the pesticide dealer or distributor as soon as possible.
- Place the entire damaged container and its contents into a suitable larger container (overpack container for subsequent disposal).



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Place damaged pesticide containers in secondary containment.

Note Shelf Life of Pesticides

Keep an inventory of all pesticides in storage and mark each container with its purchase date. Be sure to note if the product has an effective shelf life listed on its label. If you have questions about the shelf life of a product, contact the dealer or manufacturer. Signs of pesticide deterioration from age or poor storage conditions may appear during mixing. Watch for excessive clumping, poor suspension, layering, or abnormal coloration during mixing. Other times, however, the first indication of pesticide deterioration from age or poor storage conditions may be poor pest control and/or damage to the treated crop or surface.

To minimize storage problems, avoid storing large quantities of pesticides for long periods. Keep records of previous usage to make good estimates

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Mark each container with its purchase date.

of future needs. Buy only as much as you need for the season.

Follow These Safety Tips

The following safety tips help prevent pesticide accidents and exposures in storage areas and help people respond appropriately to pesticide spills and emergencies:

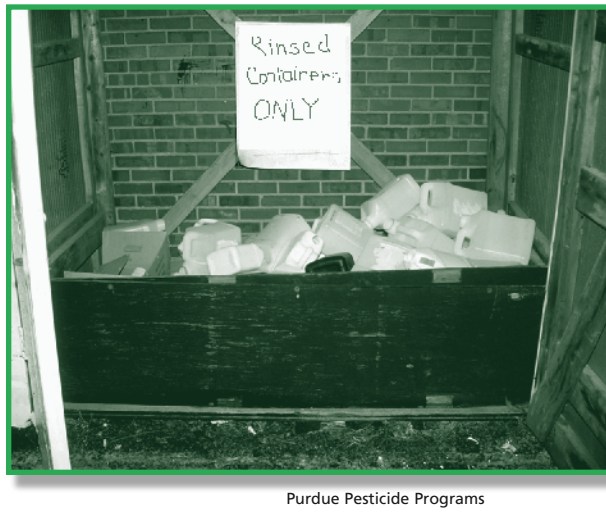
- Have duplicate copies of labels available in case of an emergency. Keep a material safety data sheet available for every chemical in the storage facility. The Internet or the pesticide dealer is a good source for MSDS and labels.
- Wear the appropriate protective clothing when handling pesticide containers.
- Label all items used for handling pesticides (measuring utensils, protective equipment, etc.) to prevent their use for other purposes.
- Have clay, pet litter, fine sand, activated charcoal, vermiculite, or similar absorbent materials readily available in case of spills or leaks. In addition, keep a shovel, broom, and heavy duty plastic bags on hand.
- Check the MSDS for the types of materials that may be needed to deactivate spills.
- Treated seed is usually colored with a bright dye to serve as a warning that the seed has

been treated with a pesticide. Unfortunately, the bright colors may be attractive to children. Never use treated seed for feed or mixed with untreated seed. Handle it with the same care as the pesticide itself and store in a locked storage facility away from feed, veterinary supplies, pesticides, other chemicals, equipment, pets, wildlife, and children.

Keep clean water for decontamination, an eyewash station, personal protective equipment, a fire extinguisher rated for chemical fires, first-aid equipment, and emergency telephone numbers easily accessible at all times. In addition, keep plenty of soap, water, and paper towels available near the storage facility.

Isolate Waste Products

Do not accumulate outdated or cancelled pesticide products. Make every effort to use up what you purchase because leftover pesticides may become hazardous waste. All of these materials could be subject to additional federal regulations on the storage, disposal, and reporting of hazardous materials (see SARA Title III and RCRA in Appendix D). Outdated products—those whose shelf life has expired—may no longer be effective. Cancelled products often have a specified period beyond which they cannot be legally used. Use time-limited products according to the label directions before the expiration date to avoid generating hazardous wastes. Follow the status of products on the verge of cancellation, and use these products before the deadline.



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Have a designated area for properly rinsed containers.

If you are holding pesticides or pesticide containers for disposal or recycling, store them in a special section of the storage site. Be sure to follow label directions for disposal of any excess or leftover product. Accidental use of pesticides meant for disposal can be a costly mistake. Make sure all empty containers are **triple-rinsed** or **pressure-rinsed** before storing for disposal or recycling. Refer to Chapter 10 for an explanation of triple-rinsing and pressure-rinsing procedures. Clearly mark properly rinsed containers. If possible, recycle these containers through a program supported by the Ag Container Recycling Council (ACRC) or by your state pesticide regulatory agency.

PESTICIDE SITE SECURITY

Businesses that manufacture, reformulate, sell, distribute, or transport pesticides have long known the importance of taking risk mitigation steps for the safety of their workers, their customers, and their communities. Those who distribute pesticides have emphasized safe storage and accurate labeling of their products. For the pesticide user, safety efforts have centered on reading and following all label directions. Now these efforts are no longer enough. Every pesticide handling and storage facility must now focus on its security efforts and plan for any possible situation.

Pesticide establishments and applicators need to review their security and emergency management plans to determine if there are additional ways to minimize risks. Lacking effective security procedures, a business may be vulnerable to both internal (employee theft) and external risks (theft and vandalism), putting employees, buildings and machinery, and even sensitive business information in jeopardy. If the business has mobile pesticide application equipment, particularly aerial application equipment, take special precautions to secure the equipment.

Benefits of Security Efforts

By developing a strong security plan, managers and individual pesticide applicators can reduce the likelihood of adverse effects on employees, the public,

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Be sure to guard against unauthorized entry.

and the environment. In addition, good security helps avoid costly losses. An incident of any magnitude can seriously disrupt business operations, resulting in lawsuits, costly remediation activities, employee fear and uncertainty, and damage to the company's or applicator's reputation. Benefits of a good security program include:

- Safeguarding employees, the community, and the environment.
- Maintaining the integrity and effectiveness of operations.
- Reducing legal risk, insurance costs, and theft.
- Reducing the risk of vandalism and sabotage.
- Protecting confidential business information.
- Improving relationships with local authorities and the community.
- Providing a mechanism for conducting employee background checks and identification.

Risk Assessment

The first step in developing a solid security program is to conduct a risk assessment. In other words, make a list of those assets that need to be protected, the types of possible threats against those assets, and the likelihood and consequences of an attack against those assets.

Any business that involves pesticides, no matter how large or small, has the same assets, which are broadly defined as people, information, and property. "People" includes employees, visitors, customers, contractors, and those engaged in transporting pesticide products. "Information" includes all business information. The "Property" that a security program might wish to protect could include the following:

- Pesticide storage facilities.
- Vehicles.
- Application equipment.
- Bulk storage tanks.
- Mixing and loading sites.
- Waste pesticide collection and containment facilities.
- All utilities, such as telephone, water, gas, and electric.
- All other potentially hazardous materials.

Several pesticides currently in use today have acute toxicities or environmental hazards that could make them attractive as potential weapons. However, any pesticide product has the potential to be misused and cause human, environmental, psychological, and/or economic injury. Make sure security measures are in place when transporting, storing, applying, or disposing of any pesticide.

Employee Training and Security Awareness

The first line of defense in any security program is to remind all employees, contractors, and customers they can serve as the eyes and ears of a companywide security effort. They notice much of what occurs in and around a pesticide storage facility or pesticide application business and can provide an early warning when something does not seem quite right or someone is acting suspiciously. Proper security training and awareness can transform these individuals into an alert surveillance system. At a minimum instruct all employees on pesticide inventory control, security of storage facilities and application equipment, and emergency preparedness and response. Individuals must be alert to unusual purchases, threats, or suspicious behavior by other employees or customers.

Evaluating Pesticide Security

The security needs and critical control points differ for each pesticide business and facility. However, some

of the fundamental security items to consider include:

Securing buildings, manufacturing facilities, storage areas, and surrounding property—One of the most fundamental security needs is preventing the unauthorized entry of persons into areas used to manufacture or store pesticides. Elements of an effective security plan can range from basic fencing, lighting, and locks to detection systems, cameras, and trained guards.

Securing pesticide application equipment and vehicles—All facilities, whether family-owned farms or custom application businesses, need appropriate security protections to prevent intruders from having access to equipment used in mixing, loading, and applying pesticides. Secure and disable equipment in the field to prevent unauthorized use. Before allowing operation of pesticide application equipment and vehicles, check handlers for proper authorization and identification. The Federal Bureau of Investigation (FBI) cautions that any suspicious activity related to the use, training, or acquisition of pesticides should be immediately reported to the authorities.

Protecting confidential information—As business, safety, and security systems become more reliant on computer and communications technology, the need to secure these systems has grown. Such efforts include contingency planning for power losses, effective monitoring of access ports, adherence to password and backup procedures, and other mechanisms to ensure only authorized personnel have access to these systems.

Developing procedures and policies that support security needs—These include effective hiring and labor policies, inventory management, and planning for emergency response. Effective hiring and labor policies are necessary to obtain and retain good employees who support and follow safety precautions. For example, the hiring process must ensure employees have all the training necessary to handle pesticides safely. Background checks of staff members who have access to secure areas where pesticides may be stored are also necessary. Inventory management is necessary to help limit the amount of potentially hazardous pesticides stored on site and to reduce the risks of accidental or intentional release or theft. Buy no more of a product than you need for a specific job or a growing season. Finally, planning for emergency response is critical and helps to ensure that business officials and employees understand how to respond and whom to contact in the case of an emergency. In addition to accidents, such plans must also now consider vandalism, bomb threats, and terrorist activity.

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Lock backpack sprayers securely onto the transport vehicle.

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Outside lights on a pesticide storage building help prevent theft and vandalism.

Coordinating with authorities in a timely manner— If a breach of security or suspicious activity does occur, contact the appropriate authorities immediately. In addition to alerting the local police department and other emergency response agencies, individuals must immediately report any threats or suspicious behavior to the local FBI field office. These agencies also must be informed of incidents involving pesticide exposures that occur under circumstances incon-sistent with a product's normal use pattern. Information on the location of the appropriate FBI office is available at www.fbi.gov.

Steps for Preventing Security Problems

- Adopt security measures that deter tampering with your chemicals, equipment, or the facility itself.
- Work with local authorities (police, fire) in developing your security plan.

- Keep an updated and accurate inventory of all chemicals in your possession.
- Keep the chemical storage area secure and locked during non-business hours and after inventory is removed.
- Routinely review, update, and practice your emergency response plan and procedures.
- Post current telephone numbers of all relevant law enforcement and emergency response agencies in a prominent location.
- Be cautious of unknown persons who are interested in purchasing large amounts of pesticides with cash.
- Ask employees to report any incidents of strangers expressing unusual interest in and/or asking questions about the toxicity of various pesticides.
- Similarly, ask employees to report anyone who shows an unusual curiosity and/or interest in pesticide application equipment.
- Report unauthorized persons loitering near pesticide storage areas to local authorities.
- Require photo identification from purchasers. Check credentials carefully to determine if they have been altered or forged.
- Restrict access of non-employees to your pesticide storage facilities.

SUMMARY

It is essential that good safety and security practices be in place for pesticides in transit and in storage. Spills and accidents are more likely to occur while transporting pesticides. The transport vehicle must be in good mechanical condition, and the owner/operator of the vehicle must be trained in emergency and spill response procedures. It is also important to have the pesticide label and MSDS for each pesticide being carried in the vehicle to assist the driver or emergency personnel should a pesticide release occur.

Design and maintain pesticide storage sites to prevent unauthorized access and damage to pesticide containers. Keeping pesticides in a cool, dry, well-ventilated room with adequate lighting protects pesticide containers and their contents from damage. Lock the storage area and post it with highly visible signs to warn others that pesticides are stored inside. Store pesticides in their original containers and out of direct sunlight. Make sure labels can be read easily. If damage to pesticide containers occurs, take appropriate steps to prevent the pesticide from leaking into surrounding areas and clean up any spill carefully. Keep an inventory of all pesticides in storage, and note if the product has an effective shelf life on its label to minimize storage and disposal problems. Follow label directions for disposing of any excess or leftover pesticide products.

Attention to pesticide site security has been on the increase. Develop security and emergency management plans for every pesticide handling and storage facility to safeguard employees and the community. Design security plans to reduce the risk of theft, vandalism, and the deliberate misuse of pesticides to harm others or the environment. Pesticide-related businesses must train their employees in appropriate security and emergency response procedures and coordinate their efforts with local police, emergency response personnel, and the FBI.